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# P R E F A C E.

THE great number of ingenious and respectable persons, who are continually becoming Members of the Society, is a sufficient proof of the satisfaction the Publick feel at the annual appearance of these Volumes: And it is the hope of the Society, that the following pages will be found to contain some very useful information, under each of the several heads into which the business is divided.

In Agriculture, the account of the manner of forming a very extensive plantation in the northern part of England, cannot fail to give pleasure to all lovers

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of that very useful branch of cultivation, the growth of Timber; and whoever has perused the foregoing volumes of these Transactions, must have seen, with great satisfaction, the many rewards bestowed by the Society on Mr White, for his spirited and almost unequalled attempts, at the improvement of his Estate at Butsfield.

Under the same Class of Agriculture, are also inserted some experiments to discover a mode of preventing the depredations of the Fly on Turneps; should the efficacy of this method be satisfactorily confirmed, by future trials, one of the most wished-for objects in farming, will be happily obtained; and it may not here be improper to say, that the Society will receive with particular pleasure, any accounts of experiments made on so interesting a subject.

Of

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Of the plant recommended in the letter from Thomas Boothby Parkyns, Esq. it need only be observed, that a pamphlet, giving a full detail of its virtues, has been printed on the Continent, from whence great part of the letter, hereafter inserted, has been extracted; and as a trial of its uses is now making, on a large scale in England, the full merits of it will be soon known; in the mean time, it is but justice to hint, how much this country is obliged to those Gentlemen, who in their foreign travels, employ their time in searching for those things which may prove really valuable to their native land, and generously communicate them to the Publick.

A method of destroying Ants, Spiders, and other Insects in hot-houses and pinnerys, is laid before the Publick in this volume; and if the instructions given are

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observed, will prove certainly efficacious, but ought to be used with caution.

Several attempts have been made, and many contrivances produced, for an easy method of cutting straw for feeding cattle ; In the following sheets, a full description and plate of a machine for that purpose, of a simple construction, and small cost, is inserted, which may be used by any person capable of turning a Wynch, and this is the principle advantage these instruments have over those that have long been in common use throughout the kingdom, in which the various motions required to bring forward and cut the straw into tolerably equal lengths, require a dexterity in the person cutting it, which long practice only can give, and therefore cannot be done by common labourers.

Under

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Under the head of Agriculture will be found some letters on the drill-husbandry, which relate to experiments made on a scale hitherto unattempted, and which serve to throw a full light on that interesting question which has so long and so often employed the attention and pens of Agriculturists, *Is the Drill or Broad-cast method of culture the most advantageous?*

Under the head of Chemistry, is inserted an account of an easy and practicable method of securing Stone Retorts from breaking; or stopping any cracks in them during an operation. The name of the Author of this paper, who is well known to be an excellent practical Chemist, and who has long used this method in his laboratory, is a full assurance of the efficacy of the method prescribed; every one versed in Chemical experiments and knowing the danger and loss that frequently follow the

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breaking the distilling vessels will think themselves happy that such a discovery has been laid before the Publick.

In the class of Polite Arts, a full account will be found of a method of imitating the manner of painting practised by the ancients, in which, when experience shall have fully proved its superior utility to the common method of painting in oil, the advantage of wax, as a vehicle, will be evident : And here again is another instance on record, of the benefit of foreign travel ; when the mind of the traveller, as in the case of Miss Greenland, directs itself to objects of real utility.

Under the head of Polite Arts, will also be found a particular account of the method pursued, at an Academy not far from town, with remarkable success, for the instruction of young gentlemen in the  
Latin

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Latin Tongue ; the letter from Dr. Egan, so fully explains the mode practised by him that it is unnecessary to enter into a more full detail in this place, except it be to observe that the proficiency of his pupils was such, as to induce the Society to vary from their usual procedure, and bestow more rewards on them, than the words of the advertisement gave them any reason to expect.

In the same class is given a particular description of a mode of instructing blind persons in musick, more commodious and extensive than that commonly employed; and as every humane mind will rejoice at those attempts, which aim at alleviating the misfortunes of our fellow-creatures, and at the same time promote the ornamental parts of education, there is no doubt the paper by Mr. Cheese, will afford much satisfaction.



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In Manufactures the reader will find two letters on the breeding and feeding Silk Worms, shewing the practicability of establishing the making Silk to advantage in this climate, and to forward the views of the reverend gentleman to whom the Society is obliged for one of those letters: Some premiums have been thrown out to the publick, for the encouragement of planting mulberry-trees, as the want of food seems the only obstruction to the carrying this desirable object into full execution.

The other letter on this subject, written by Miss Rhodes, of Bridgnorth, whose papers inserted in the fourth volume of the transactions, have already been so favourably received, points out, in a forcible manner, so certain a mode of preventing any accidents that may arise to the Worms, from the change of weather, to which this  
country

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country is subject, that little reason remains to doubt the certainty of raising, to advantage, the Worms, and carrying on the manufactory of Silk with profit in this Island.

Under the head of Mechanicks is inserted a history, description and representation of an Hydraulic Machine; this account was written, and the drawings made, by a gentleman of such established reputation, as leaves a full assurance of the utility of the machine, which promises to be on many occasions of great consequence in very important works.

Few things, particularly in hot climates, are of more importance to the inhabitants, than good methods of preserving Water, and to those who are acquainted with the nature of that species of earth called Puzzolana, or Tarris, little need be said to  
shew

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shew of what great utility the discovery of such a material as is mentioned in the paper under the class of Colonies and Trade, will be to the island of Jamaica; it is true that earth has been already employed for some of the most useful purposes to which it is applicable, by the inhabitants of that island, but the nature of it being now made publickly known, other countries trading to Jamaica, may have the advantage of purchasing it for their own uses, and to the emolument of the proprietor; for though the distance of that island, from Great Britain, will perhaps not admit the bringing it to advantage hither; yet, the countries nearer to the place where it is found, will now be informed, where so useful a material may be procured; and one great end of this institution, the communication of useful discoveries from one part of the British dominions to another be answered.

Under

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Under the different heads of premiums offered for the ensuing year, some new ones will be found of considerable consequence, to the improvement of the Agriculture and Manufactures of the kingdom, and particularly under the head of Chemistry, a premium has been introduced, for making fine Bar Iron with Pit Coal, an object of the highest importance to this country ; and which the great improvements made within these few years, by the spirited exertions of the manufacturers in that branch, render it probable, may, in no great length of time, be accomplished. When the large sums of money sent to Russia, Sweden, &c. for this necessary article, and the immense mines of Ore, and Coal in these kingdoms, are considered ; no premium can be bestowed, by which the good of the country will be more advanced, than for obtaining this great and desirable End.

And

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And here it may be proper to mention, that at length the Society has obtained an object long fought after by them, that is, a Paper manufactured in England equal to the French, for receiving impressions from Mezzotinto and other engraved copper plates, the premium for this article not having been adjudged to the candidate, Mr Bates, of Wycombe-marsh, Buckinghamshire, until the year 1787; a more particular account is deferred to the next Volume of Transactions; suffice it therefore to say, that all the plates in this volume are taken off on that paper, and the publick are now enabled to form a fair judgment of it. It may not here be amiss to say, that in order to shew to the world at large, the merit of that ingenious artist Mr Bacon, the Frontispiece of this volume represents the statue of Mars in the Society's Great room, of  
which

which mention has been already made, Vol. III. Page 135 ; and that full justice might be done to that excellent piece of sculpture, the engraving has been executed by the celebrated Mr Bartolozzi, whose works are at this day in the highest reputation through Europe.

There remains now only to add, that the Society will be happy to receive any communications that may tend to promote the Arts, the Manufactures, or the Commerce of these kingdoms, and those that are found deserving, will be inserted in some future Volume in a manner that may do credit to the authors whose names will thereby be transmitted to posterity as having contributed to the welfare and prosperity of their native country.